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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,980	06/06/2002	Harald Grewe	(H)01PH0405USP	5962

7590 07/12/2005

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EXAMINER	
SQUIRES, BRETT S	
ART UNIT	**PAPER NUMBER**
2836	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/018,980	GREWE ET AL.	
	Examiner	Art Unit	
	Brett S. Squires	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The corrections made to the drawings submitted on April 7, 2005 have been received and are accepted by the examiner.

2. The statement that the substitute specification includes no new matter submitted on April 7, 2005 has been received and accepted by the examiner. The substitute specification filed on June 6, 2002 will be entered.

3. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide information that the examiner has determined is reasonably necessary to the examination of this application. In response to this requirement, please provide a copy of the industry standard EN 50254.

In responding to those requirements that require copies of documents, where the document is a bound text or a single article over 50 pages, the requirement may be met by providing copies of those pages that provide the particular subject matter indicated in the requirement, or where such subject matter is not indicated, the subject matter found in applicant's disclosure.

This requirement is an attachment of this Office action. A complete reply to this Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the office action.

Specification

4. The industry standard EN 50254, which is used throughout the specification and the claims, must be clearly cited in the specification with the date the standard was issue, the body that issued the standard, and the full name of the standard itself.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The standard "EN 50254" in claim 34 is a relative term which renders the claim indefinite. The standard "EN 50254" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. A copy of the EN 50254 standard has not been provided for the examiner to review. This rejection will be removed when a copy of the EN 50254 standard is provided for the examiner to review.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 21-23 and 25-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Ying (US 6,147,967).

Ying discloses a method and apparatus (figure 6 ref# 603 and 642) for modules (figure 7A-8G ref# 703 and 705) connected to a supply voltage in series (figure 7A-8G ref# 704 and col. 14 lines 22-32) for fault isolation of an automation bus system (col. 1 lines 6-39 and col. 2 lines 36-53) having a voltage supply input (figures 7A-8G), a voltage supply output (figures 7A-8G), a relay for connecting the supply voltage input to the supply voltage output (figure 6 ref# 644a, 644b, figures 7A-8G ref# 712, col. 14 lines 3-9 and 22-32), in response to an ascertaining device ("CPU" figure 3 ref# 315, figure 6 ref# 612,622, col. 5 lines 34-67, col. 10 lines 9-34, col. 13 lines 60-67, col. 14 lines 1-21) for ascertaining at least one electrical variable for detecting a short circuit.

Regarding Claim 27:

Ying discloses an apparatus (figure 6 ref# 603 and 642) configurable manually and through the automation bus system having a central processing unit and a memory (figure 6 ref# 612, 618, col. 3 lines 34-64, col. 10 lines 9-34).

Regarding Claim 31:

In the above stated paragraphs Ying discloses that the apparatus is able to detect short circuits, a ground fault is a type of short circuit, thus the apparatus would be able to detect a ground fault because it is able to detect short circuits.

Regarding Claim 33:

Ying discloses an automation bus system (col. 1 lines 6-39 and col. 2 lines 36-53) that is able to be configured as a serial bus system (col. 21 lines 56-64).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claim 24 and 35-42 are rejected under 35 U.S.C. 103(a) as being obvious over Ying (US 6,147,967) and Schminke (US 4,594,634).

Ying discloses the above stated apparatus for fault isolation of an automation bus system, but does not disclose the apparatus is arranged to detect a flowing supply current.

Schminke discloses a current measuring device (figure 1 ref# 5) that outputs a measurement signal proportional to the load current to a limit detector (figure 1 ref# 4) in which a predetermined limit of the load current is stored and as soon as this limit is exceeded the limit detector supplies a signal to the switching control unit which opens

the switch (figure 1 ref# 26) connecting the device to the voltage source (col. 4 lines 9-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in Ying an over-current protection device such as that taught by Schminke in order to protect the automation bus system from being damaged by the high currents caused by a overloading the bus and short circuits. Ying discloses protecting the automation bus system against short circuits during a short circuit the supply voltage is pulled down while the current dramatically increases, thus short circuits can be easily identified by over-current protection device disclosed by Schminke.

Regarding Claim 39-42:

Ying discloses a method for connecting and operating series-connected apparatuses in a control and data transmission installation starting with a first apparatus ("master node" figures 8A-8G ref# 703), then connecting the subsequent apparatuses ("slave nodes" figure 8A-8G ref# 705) to the automation bus system automatically (col. 14 lines 34-67 and col. 15 lines 1-22).

Ying further discloses that an error message is output to the automation control bus in order to control the bus system when an apparatus indicates a short circuit (col. 11 lines 36-62) and the error message comprises data identifying the apparatus (col. 0 lines 16-33).

11. Claim 34 is rejected under 35 U.S.C. 103(a) as being obvious over Ying (US 6,147,967) and the EN 50254 standard.

Ying discloses the above stated apparatus for fault isolation of an automation bus system with at least a first module ("first-tier slave node" figure 5 ref# 523C) connected to the supply voltage in series comprises an associated apparatus in a local bus section or bus spur (col. 6 lines 65-67 and col. 7 lines 1-18), but does not disclose the automation bus system complies with the EN 50254 standard.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Ying to comply with the EN 50254 standard to allow the automation bus system to be sold in Europe.

Response to Arguments

12. Applicant's arguments filed April 7, 2005 have been fully considered but they are not persuasive.

In response to applicant's argument that Ying does not disclose that the bus units are connected to the supply voltage in series, the examiner respectfully points the applicant to figures 7-8 and column 14 lines 22-33, which show that the bus units are connected to the bus (figures 7-8 ref# 704) in a series loop connection.

In response to applicant's argument that there is no hint in Ying regarding an apparatus having a supply voltage input and an associated supply voltage output, the examiner respectfully points the applicant to the shunt circuit (figure 6 ref# 642 and figures 7-8 ref# 721) connected to the bus (figure 6 ref# 604 and figures 7-8 ref# 704).

The examiner would like to further point out that in a series electrical connection a voltage will pass through the first device in the series connection providing power to the device, the voltage will then pass through the next device in the series connection providing power to that device and so forth until all of the devices in the series connection have received power in the above described manner. The examiner would like to even further point out there is no claim limitation that structurally or functionally distinguishes the left and right sides of the shunt circuit from a supply voltage input and a supply voltage output and therefore the left side of the shunt circuit is read upon a supply voltage input and the right side of the shunt circuit is read upon a supply voltage output.

In response to applicant's argument that Ying does not provide a device for disconnecting the supply voltage from the bus unit, the examiner would like to point out that switches in the shunt circuits of the bus unit (figures 7-8 ref# 712 and abstract) are used for isolating the bus units from the bus. When the bus being used has both power and data lines the switches in the shunt circuit for isolating the bus units from the bus will disconnect the bus unit from both the power and data lines, thereby isolating the bus unit from bus. The examiner would like to further point out that the fault isolation system disclosed by Ying is for isolating faults in a distributed control network and providing power to an uncontrolled bus unit would pose both safety and fire hazards.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. Additional prior art of interest includes but is not limited to the following US Patents and Publications, Foreign Patents and Publications and Non-patent Literature: Prendel (EP 0551114 A1).

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett S. Squires whose telephone number is (571)272-2268. The examiner can normally be reached on 9am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2058. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brett S Squires
Examiner
Art Unit 2836

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